CLEAN COPY OF AMENDED CLAIMS

Claims 1, 10, 19 and 22 now reads as follows:

A1

1. A method of classifying a defect on the surface of an article, which method comprises:

imaging the surface to form a defect image;

classifying the defect as being in one of a predetermined number of core classes of defects using a core classifier; and

classifying the defect as being in one of an arbitrary number of variant subclasses using a specific adaptive classifier associates with the one core class, the specific adaptive classifier being trained by the user with a set of sample defect images.

A2

10. An apparatus for classifying a defect on the surface of an article, comprising:

an imager to produce an image of the defect; and

a processor comprising:

a core classifier for classifying the defect as being in one of a predetermined number of core classes of defects, and

a specific adaptive classifier associated with the one core class for classifying the defect as being in one of an arbitrary number of variant subclasses, the specific adaptive classifier being trained by the user with a set of sample defect images.

A3

20. A specific adaptive classifier, trained by the user with a set of sample defect images, for classifying a defect on the surface of an article as being in one of an arbitrary number

of variant subclasses of a core defect class, responsive to a core classifier classifying the defect as being in the core class.

22. A computer-readable medium bearing instructions for automatically classifying a defect on the surface of an article, said instructions, when executed, being arranged to cause one or more processors to perform the steps of:

imaging the surface to form a defect image;

classifying the defect as being in one of a predetermined number of core classes of defects; and

classifying the defect as being in one of an arbitrary number of variant subclasses based on the classification of the defect as being in the one core class and based on training by the user with a set of sample defect images.